



WHIST - Women's careers hitting the target:
Gender management in scientific and technological
research



Policy brief No.2

Gendering science and technology: the outcomes of a European project



A full use of both male and female human resources and scientific talent contributes to the advancement of European science. Being aware of this, the WHIST project, funded under the 7FP-SiS-2011, set out to produce further and more in depth knowledge of gender diversity management in science and technology organizations in order to remove the obstacles to a full gender equality in scientific careers and to improve the organizations' capacity of managing, monitoring and increasing gender diversity inside them.

To this end, WHIST planned and fostered a joint learning process (led by ASDO and assisted also by the University of Milan, under the supervision of the Italian Department for equal opportunities as project coordinator) in three different organisations in order to turn their demand for gender diversity management into a set of experimental activities.

The aim was devising and disseminating tested recommendations for favouring a structural change in science and technology organizations in Europe, mainly through the guidelines resulting from the project. As a whole, therefore, the process of conception, design and implementation of the WHIST experiments was conducted as **a single path of experimentation and production of new knowledge on gender dynamics in scientific and technological research organisations.**

The WHIST experimental activities started by making the most of previous programmes geared at reducing gender gap in science in Europe, Northern America and Australia, which have been studied and analysed in the project "Practicing gender equality in sciences" PRAGES¹, carried out by 4 out of the 6 WHIST partners.

PRAGES stressed the need to overcome the merely quantitative aspects of the gender gap in science and to base actions and policies aimed at supporting women's participation in scientific and technological research on a deeper understanding of the difficulties hindering female careers. In particular, PRAGES has shown that, to make an impact and get results in the medium and long term, actions for gender equality need to adopt at the same time **a holistic approach** (able to take into account the full range of topics and issues to be addressed) **and an analytical one** (grounded on the knowledge of the actual context in

¹ PRAGES was funded by the European Commission, 7th Framework Program for Technological Research and Development, SiS 2007, Grant Agreement N. 21775. It was carried out by a Consortium coordinated by the Department for Equal Opportunities of the Italian Presidency of the Council of Ministers.

which the action takes place), in order to identify the most effective solutions. On this basis, three strategic directions to conduct successful interventions have been identified, namely: making science and technology an **enabling environment** for women; including **gender dimension** in the whole process of research and innovation; and promoting **women in leadership positions**.

WHIST continued on this way, trying to put in practice the main lessons emerging from PRAGES in terms of strategy and approaches by devising actions geared at gender equality in three different research settings, so as to better understand what happens when initiatives to support women in the world of research are actually started and implemented.

Issues at stake: pinpointing the actual conditions for scaling up gender equality practices in science while observing actions in their making

Women's presence in European research is heavily affected by the organisational context where research is actually carried out. Owing to the interaction of different variables of a cultural, disciplinary and structural kind, there is a progressive decrease in the percentage of women researchers going from universities to the industrial research field, while public and government bodies are in an intermediate position. The choice of the kinds of organisation involved with the experimental activities reflected the aim of seeking and verifying – in the field – the peculiarities of three different research settings as regards the most recurrent obstacles and the possible solutions to the problems encountered. Moreover, the diversity of the contexts and the inevitable heterogeneity of the situations, enriching the list of possibilities, provided greater opportunities for exchange and dialogue among the project partners. Also the decision to work in countries with different cultural and scientific traditions (Denmark, France and Germany) was in line with this orientation.

More specifically, **University of Aarhus** worked to create a **women-friendly environment** and to **support women's leadership** in science. This included: the implementation of a mentoring pilot programme addressing young women researchers in two faculties (Business School and Faculty of Science); the design and implementation of action plans for gender equality within a number of Faculties; the creation of incentives to hire 20 new women professors and associate professors; the mapping, in a gender perspective, of factors leading to abandon the University.

The effort of **European Space Agency** was addressed to **orient the corporate culture to understand, respect and valorise cultural and gender diversity** by means of: the creation of a corporate Institutional Committee in charge of assessing and promoting initiatives aimed at improving quality of working life for women at ESA; the draft, internal circulation and discussion of a set of corporate behavioural guidelines establishing common interpersonal standards of behaviour and integrating the gender dimension; the test and launch of a corporate communication campaign on standards of behaviour; the preparation, through an extensive survey, of a pilot programme to support the partners of ESA women expatriated staff.

Fraunhofer IAO has adopted a **quality-based approach to manage the gender dimension and dynamics in the working environment** through a number of integrated actions. These were, namely: the draft of two annual reports on equal opportunities; a renewed section of the intranet on gender and diversity adopting a gender-sensitive language; a re-entry support service addressed to employees in parental leave after baby break; a seminar to enhance gender equality addressed to male and female beginners.

To produce the desired output in terms of new knowledge, the experimental activities were followed by an **accompanying research**, which used as empirical basis the observation and the collection of information, carried out through special instruments as well as all the documentation produced in the course of experimental work.

Learning by experience: the Guidelines on Gender Diversity in S&T Organisations

The guidelines are an attempt to build on the actual experience and concurrent reflection conducted through the experimentations in WHIST, formalising the **lessons learned**.

The first lesson was to recognise that any action for gender equality is a path fraught with **obstacles**, related to two different aspects. The first is the interpretation of gender discrimination in science, the awareness of stakeholders and, consequently, their mobilisation. The second aspect concerns the institutional and operational arrangements of scientific organisations and the possibility that the desired transformations could actually take place.

It has been also possible to verify that, for igniting structural change, the **size of the interventions** often goes beyond the individual research institute and that

it is sometimes necessary to refer to a wider sphere of action, even out of the same field of science and technology, acting in the political and regulatory environment at national level. In the guidelines, again based on the experiences carried out, a series of conditions and possible actions are proposed, in order to make a change in scale, triggering a **capacity for social innovation**, with a scope broader than that of a single research institution, so as to make gender equality in science a common asset and a shared culture also in the community in which it is established.

Another important insight concerns the **capacities** that promoters of gender equality actions can develop and diffuse to address the obstacles identified and to achieve the established objectives. Also in this case, we are referring to capacities related to the two sides mentioned above, i.e. interpretative and motivational capacities, on the one side, and institutional and operational capacities, on the other side. These capacities are based on a continuous **negotiation** activity, i.e. dialogue, interlocution, transaction, developed in different areas at different levels, which is necessary in conflict situations or where divergent points of view arise.

Finally, the practical experience of the experimentations and the analysis of the actual practices put in place, together with an examination of the facilitating factors that the three experimental teams have been able to rely upon, allowed the WHIST team to formulate a set of **recommendations** for those who want to take a similar path. See more at:

http://www.retepariopportunita.it/Rete_Pari_Opportunita/UserFiles/whist/WHIST_LG_DEF.pdf

Suggestions and recommendations emerging from the WHIST final conference

The final outcomes of the WHIST project summarised above, i.e. the three experimental initiatives carried out at Fraunhofer IAO, ESA and Aarhus University and the Guidelines for gender diversity in S&T organisations, have been presented and discussed in a final public conference in Brussels. The conference aimed at discussing these results in the light of the wider perspective of the structural change strategy for gender equality, adopted by the Directorate General for Research of the European Commission for the next programming period.

Some comments and final orientations were given by the attendees, both speakers scheduled and participants in the debate.

The persistence of gender gap and the needed shift from single projects to enduring policies for structural change in European science were pointed out in the opening speeches by Michele Palma and Gilles Laroche, respectively representing the Italian Department for Equal Opportunities at the Presidency of the council of ministers (coordinator of the WHIST consortium) and the head of the unit “Gender and Ethics” of the Directorate General Research of the European Commission. Palma reported some current initiatives carried out by the Italian Government, namely the Memorandum of Understanding among the ministries for scientific research and equal opportunities, aiming at coordinating the efforts of all the concerned actors toward gender equality in science. Laroche illustrated the targets fixed for women presence in all committees and commissions dealing with research matters in the European Commission and the tools devised to reach these objectives.

Sociologist and research methodologist Antonio Chiesi, (University of Milan), also interpreting the testimony given at the conference by astrophysicist Veronica Bindi about her career experience at CERN, a typically male dominated working environment, highlighted the **relevance of the interactions between bottom up and top down initiatives** for a more gender-equal science, which represents an asset not only for women, but for the sake of science, making it more competitive and in tune with contemporary society. In this sense, Chiesi suggested to take them carefully into account and also to **act on both the demand and the supply side** of scientific competences.

Besides having commented on experimental initiatives carried out under the project, Amalia Ercoli Finzi, of the Polytechnic of Milan and WHIST scientific advisor, argued that **women's competencies can be pivotal in situations demanding innovations and initiatives** that do not fall in the traditional way, providing examples on their key role in past scientific enterprises.

Some common threads emerged from the comments of the other WHIST scientific advisor Lotte Bailyn (Massachusetts Institute of Technology), who appreciated the **participative approach** and the sort of **tailoring process**, based on the previous careful analysis of the actual organisational context, characterizing WHIST experimental activities, and the description made by Marina Cacace (ASDO) of the forthcoming project STAGES, which, following PRAGES and WHIST, aims at igniting and making permanent the structural change towards gender equality in several European research organisations. Both the speakers, using different words, emphasised the **importance of the process of negotiation** among different actors inside the concerned organisations in order **to reach a shared point of view on the measures to be adopted in each research setting**. Bailyn also illustrated some examples of practices adopted in MIT (maybe the first Northern American important research

organisation to start gender equality policies in the 90s) and in other US research institutes.

Keeping young talents in their own research institutes **by improving the working environment for all** is one of the key objectives of a new project (named FESTA) geared at structural changes in research organizations in six different European countries, described by the coordinator Minna Salminen of the University of Uppsala.

Speaking about the future perspectives of European research from different points of view, an **invitation to monitor the gendered impacts of European and national policies**, concerning both science and innovation policies and welfare and labour market policies, came from Pia Locatelli (former member of the European Parliament and President of the Foundation Zaninoni), Bianca Beccalli (University of Milan) and Marcella Corsi (University of Rome and Free University of Brussels). In particular, Corsi deepened the issue of current world economic crisis, which affects in different ways women and men, mainly worsening the conditions of women and recommended the adoption of the gender budgeting.

A discussion has also been made about **keeping in due consideration dual career couples in scientific settings**, which is hardly considered both in USA and in other industrialized countries. This specific issue, raised by Mary C. Juhas (Ohio State University), has been also commented by Mary Lynn Realff (Georgia Institute of Technology), Maria Rimini-Döring (Bosch) and Katrien Maes (LERU), who reported specific experiences in this field.